REMARKS

Claims 1-5, 7-9 and 14-20 stand rejected under 35 U.S.C. §102(b) for anticipation by U.S. Patent No. 6,562,474 to Yoshimi et al. Claims 1-5 and 7 stand rejected under 35 U.S.C. §103(a) for obviousness over U.S. Patent No. 6,015,628 to Urata et al. in view of U.S. Patent No. 5,716,255 to Sasaki et al. Claims 10-13 stand rejected under 35 U.S.C. §103(a) over the Yoshimi patent in view of U.S. Patent No. 6,180,177 to Nagashima et al. Claims 1-5 and 7 have been cancelled. The rejection based on the combination of the teachings of the Urata and Sasaki patents is now moot. Claims 10 and 11 have also been cancelled. The subject matter of claim 11 has been incorporated into claim 8. Hence, the following remarks are directed to independent claim 8 and dependent claims 9 and 12-20.

The remaining claims define over the Yoshimi patent or the Yoshimi and Nagashima patents for the following reasons. The present invention is directed to a metal sheet that is coated with a fluoride component containing at a least a fluoroacid. This fluoroacid chemical agent has a strong etching power that converts the surface of the base metal sheet to provide for significant adhesion of the overlying paint layer with the sheet. In addition, a reaction product of the fluorides with the base metal and calcium, which is eluded from ion exchange silica, are complex compounds that are useful as components in a corrosion inhibiting film. The presence of the fluorides in the chemically treated surface of the base metal sheet is an important factor for improving corrosion resistance in combination with dispersion of ion exchange silica in a paint film. This combination of layers of a chemical agent containing at least one fluoroacid and a chromium-free paint layer containing porous silica particles to which a calcium ion is bound, a polyphosphate and optional pigments is not taught or suggested by the Yoshimi patent taken alone or in combination with the Nagashima patent.

In particular, the Yoshimi patent describes a composite oxide coating on a surface of a plated steel sheet. The patent specifically teaches away from using fluoride compounds at col. 23, lines 22-26; col. 114, lines 13-16; col. 206, lines 47-50; col. 259, lines 32-36; and col. 279, lines 8-11. Throughout the patent, the use of fluorides is described as detrimental for environmental and safety reasons. As such, there is no motivation to modify the plated sheet of the Yoshimi patent to contain any fluoride-containing compounds. Moreover, Yoshimi actually teaches away from using fluoride materials in a sheet coating. In

addition, the Nagashima patent is directed to chemical treatment of metallic materials with an acidic surface treating agent which may contain fluoroacids. The Nagashima patent does not refer to the formation of paint films containing a corrosion inhibitor, much less to paint films that would overlay a fluoroacid through the metal surface. As such, there is no motivation to use a fluoroacid treatment taught as by Nagashima for surface treating the sheet of the Yoshimi patent.

Withdrawal of the prior art rejections as applied to amended claims 8, 9 and 12-20 is respectfully requested.

Respectfully submitted,

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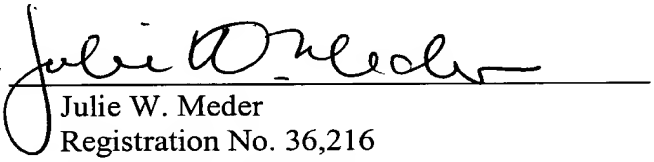
By 

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